RADIATION REVIEW

UW - Madison Safety Department **Radiation Safety Program**

30 N. Murray St. **262-8769** **February 1997**

http://www.wisc.edu/safety

RADIATION SAFETY NEWS

This newsletter has three major subjects which will have an impact on you and your labs. They are:

1. **CORD Fee Increase**
2. **Recent NRC Inspection Results**
3. **NRC's Activity/Security Limits**

Please take time to review this newsletter and pass it around to others in your lab.

Ron Bresell
Radiation Safety Officer

RADIATION REVIEW is produced approximately four times per year by University of Wisconsin Radiation Safety Department. To receive a copy send an email to Ralph North at ralph.north@mail.admin.wisc.edu

Ralph can also be reached through the Safety Department web page at **http://www.wisc.edu/safety**

CORD Fee Increase

Effective 1 April the CORD fee will increase by $2 to $25. This increase is actually only one element in a two-step solution which is planned to actually save you money in the long run. CORD was established by the Chancellor as a 128 Fund activity and by statute it must not operate in the red. There are currently 4½ persons working for CORD. Besides the CORD individuals you talk to daily, CORD also pays half of the Dosimetry specialist salary. In May, 1996 we eliminated a 25 hr/week (0.66 FTE) position. In January, 1997, when I performed the mandatory 5-year budget estimate, I noted that annual CORD salaries and fringe benefits were so high ($178,000) that CORD would operate in the red beginning 1 February 1998 and future projected personnel costs would never be made up by the CORD fee regardless of the number of orders you placed. Therefore the $2 increase (from $23 to $25) is a stopgap measure to keep CORD in the black this year.

I have informed the most junior member of CORD that I will eliminate their position on 1 February, 1998. This 1-year alert will hopefully allow a dedicated Safety employee time to obtain comparable employment. This elimination should save CORD approximately $33,000 in salaries and fringes annually. Three people are probably the minimum that CORD needs to function. Other changes I am contemplating and will probably implement as a consequence of this restructuring:

1. Shorten CORD telephone ordering hours to 10 - 11:30 AM; 12:30 - 2 PM. This would allow the technician to receive packages that arrive by 9:30 via Federal Express. We encourage all users to use our web page ***http://www.wisc.edu/safety*** to place orders. This page is always open and orders items sent before 12:00 noon are usually ordered that day.
2. Delete the $6 per case processing fee for sewerable LSC cocktail. Although this fee only generates about $5000 annually, it has contributed to CORD remaining solvent. If one position is eliminated, we can pass that savings back to you by eliminating this troublesome fee. Because we still want to discourage use of hazardous cocktail, the $30 per case organic fee will remain.

NRC Inspection Results

The NRC conducted an inspection at the UW from 21 - 23 January. The NRC initiated a new program. They will assign a single inspector to each large licensee and that inspector will visit the licensee 3 - 4 times each year. This inspection was of clinical uses of radioactive material and certain transportation activities. The tentative findings (these may or may not be cited as violations):

1. The NRC emphasized that exceptions to NRC regulations are not given. Our prior license renewal in 1987 had requested that certain iodine users be exempt from a 3-day bioassay. While the renewal issued in 1989 did not say "No Exception", it also did not say "Exception for ..."
2. One room had the wrong type of radiation sign. All rooms in which radioactive material are used/stored must have a "***Caution - Radioactive Material***" sign on the door.
3. Radioactive materials must be transported according to U.S. Department of Transportation regulations. Some researchers were transporting materials about campus without completely adhering to the DOT rules.

The inspector did report to the Vice Chancellor that no safety hazards were uncovered during this limited inspection.

The next several inspections will be associated with research uses of radioactive materials. Besides walk-throughs of labs and conducting surveys, likely candidates for attention will be any lab involved in transporting radioactive material (e.g., to/from Trout Lake, Arlington, etc.), Iodine-125 users (bioassays and effluent monitoring), P-32 use, etc.

Activity Limits for Security

NRC regulations specify that radioactive materials must be either secured (e.g., locked room, refrigerator, waste container, etc.) or under constant supervision. While no one would argue the necessity for security in a nuclear power reactor or in a source fabrication plant, many are skeptical when the same absolute measures are applied to research labs. The recent incidents at NIH, Yale and MIT have caused the NRC to reemphasize the importance of security and has resulted in a reduction of radionuclide research at these facilities and criticism of the NRC's unrealistic position.

Therefore, while the regulations have not changed, the NRC has allowed inspectors some flexibility in interpreting the extent of a licensee's security. The inspector assigned to the UW intimated that he intends using 10-times the values found in Appendix C to Part 20, Quantities of Licensed Material Requiring Labeling, to define mandatory security/ surveillance. Not all NRC inspectors concur with these values, but it is likely that these values will become accepted. For isotopes routinely used at UW, these mandatory security limits are:

Isotope	Activity (mCi)
Hydrogen-3	10
Carbon-14	1
Fluorine-18	10
Sodium-22	0.1
Sodium-24	1
Phosphorus-32	0.1
Phosphorus-33	1
Sulfur-35	1
Calcium-45	1
Scandium-46	0.1
Vanadium-49	10
Chromium-51	10
Iodine-125	0.01
Mercury-203	1

For example, if your lab is using 0.25 mCi (250 µCi) of P-32, then the lab should be locked if no lab workers are present. Stock vials, when not in use should be stored in a lockable refrigerator or cabinet. Waste containers on lab benches may not need to be locked, however larger waste boxes should be secured. Safety recommends labs give us their waste when they have accumulated 1 cubic foot.

However, security is important. While the NRC may not cite the university for unlocked rooms containing 0.09 mCi (90 µCi) of P-32, if a lab loses more than 0.01 mCi (10 µCi) of P-32, the loss must be reported to the NRC and a violation would result. Additionally, the inspectors have been instructed to inspect "after hours" security by entering buildings after 5:30 PM and checking on the security of radionuclide labs. After hours, if no one is in a lab, it should be locked. The NRC may not be flexible in applying this interpretation and may issue violations for rooms unsecured after 5:30 PM.

Health Physics Resources on the Internet

INTERNET MAILING LISTS

RADSAFE:
RADSAFE is an electronic mailing list for Health Physicists, Medical Physicists, Radiological Engineers and others who have a professional interest in matters related to Radiation Protection. To subscribe to RADSAFE, send the following message to listserv@romulus.ehs.uiuc.edu:

subscribe RADSAFE YourFirstName YourLastName

MEDPHYS:
MEDPHYS is an electronic mailing list for Health Physicists, Health Care professionals and others who have a professional interest in Medical Physics. To subscribe to MEDPHYS, send the following message to listserv@cms.cc.wayne.edu:

subscribe MEDPHYS YourFirstName YourLastName

DOSE-NET:
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subscribe DOSE-NET

RADIOBIOLOGY:
The purpose of the RADIOBIOLOGY list is to enable informal discussions to take place between scientists and clinicians with an interest in animal, cellular or molecular radiobiology or clinical radiotherapy. Participation is invited from researchers and clinicians in the UK and beyond. To subscribe to RADIOBIOLOGY, send the following message to Mailbase@mailbase.ac.uk:

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